Operating Instructions

VISCO 500

Keep this manual within immediate reach of the machine

GB - Englisch

Ausgabe 1.2-10

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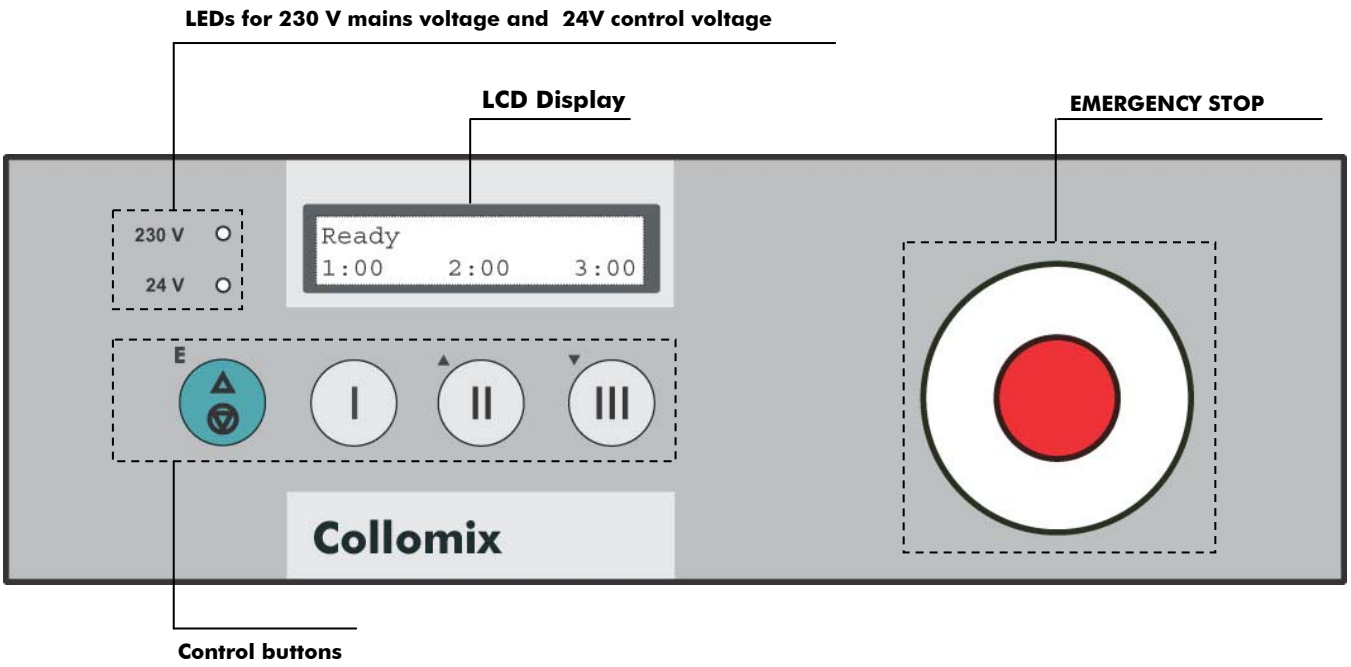
1. Layout drawings

1.1 Machine components

Machine components

1. Locking lever	5. Control pane
2. Manual door release	6. Sliding door
3. Top clamping table	7. Slide with bottom clamping table
4. Main switch (at the rear)	8. Emergency Stop

1.2 Operator's controls



Control buttons

	Button E	• **OPEN the clamping unit** • **QUIT stand-by mode** • **STOP mixing cycle prematurely** • **ACKNOWLEDGE messages**
	Button I	• **Mixing cycle I**
	Button II	• **Mixing cycle II**
	Button III	• **Mixing cycle III**

2. General information

The VISCO is a stationary mixing unit for homogenization of printing inks and comparable material with a viscosity up to ~ 500 Pa s in closed, tightly closing, round containers made of metal or plastic.

When the machine is started, the loaded container is automatically clamped between the mixing tables and rotates simultaneously about its longitudinal and transverse axis. This mixing principle guarantees that materials are prepared quickly, quietly and with minimum stress exerted on the container.

The required mixing time and the suitability of the container are to be determined before attempting to use the shaker.

This manual is intended for persons who operate the machine.

3. For your safety

Although the VISCO has been developed, manufactured and tested in accordance with fundamental safety requirements, an element of risk is still present!

- Therefore, read this manual before you work with the machine
- Keep this manual within immediate reach of the machine

3.1 Pictograms and symbols used in this manual

The "caution" symbol is used to indicate a situation in which persons are at risk of suffering physical injury. The warning must be heeded at all costs.

The "stop" symbol is used to indicate a situation in which the machine is at risk of being damaged.

The "hazardous electric voltage" symbol is used to indicate live components that may pose a risk to life and limb.

Those parts of the manual that are important for the correct and safe operation of the machine are printed in bold type.

3.2 Proper use

The machine must not be operated in any way other than described in this manual. The term 'improper use' applies in particular to the following:

- Operation with defective or missing parts.
- The bridging or deactivation of any safety devices.
- Operation of the machine in areas with a potentially explosive atmosphere.
- The use and installation of non-original replacement parts.
- Running the machine for too long, which can potentially lead to the mixing container bursting.

The consequences of improper use can be personal injury to the user or third party, as well as material damages to the appliance or mixing material.

3.3 General safety instructions

Observe the electrical regulations in force as well as the additional instructions listed in this manual when you install the machine. Installation and use of the machine for the first time must be carried out by a trained specialist.

The machine is to be used only by persons who are acquainted with the working principles of the machine and also with the safety and accident prevention regulations in force in your country.

Check that the machine is in the proper condition and that all parts are in good working order before beginning with your work. Do not operate the machine with any defective or missing parts.

Any maintenance work or repairs must only be carried out by qualified personnel. Before performing any maintenance work or repairs be sure to disconnect the machine from the power supply by pulling out the power plug. Use only original replacement parts.

Close the machine when not in use and turn off at the main switch. Projecting parts may injure you and others.

3.4 Safety-relevant components

Closed housing

The housing is a stationary safeguard and partition that can only be opened with the use of tools.

Machine door with interlock

The door is an interlocking safeguard and partition. It is impossible to start the machine when the door is open. The door is not unlocked until after the mixing cycle is ended and the mixing container released.

EMERGENCY STOP function:

With the Emergency Stop function you can

- Reliably interrupt the control voltage supply so that the machine is unable to move.
- Bring the machine to a halt when it is running.

4. Using the machine for the first time

4.1 Installing the machine – Transport notes

Your biaxial mixer is delivered in reusable cardboard packaging on a wooden pallet.

Use a suitable hoist to lift the machine off the pallet. Be particularly careful with the bottom of the machine so that no bearing parts are damaged or bent.

Place the machine on firm, level ground. Slight unevenness can be compensated with the height-adjustable machine feet.

4.2 Moving the machine

The mixer has two transport rollers on the bottom of the housing. These transport rollers can be made to protrude out of the mixing compartment by turning two screws in the base plate of the mixing compartment.

- Use a cordless screwdriver (counter-clockwise rotation) or some other suitable tool size SW 17 to turn out the transport rollers on both sides of the machine.
- Carefully tilt the mixer and move it.
- When you are finished moving the machine, turn the transport rollers back in and compensate any unevenness with the height-adjustable feet.

Screw →

Turning out the rollers →

Moving the machine

4.3 Trial run

It is best to carry out a trial run **with an empty mixing container** when you are starting up the machine for the first time or after carrying out maintenance work or repairs.

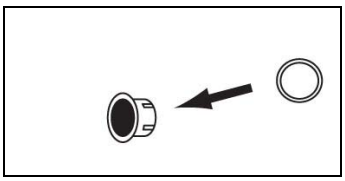
It is prohibited to operate the machine on its shipment pallet or on other unsuitable surfaces.

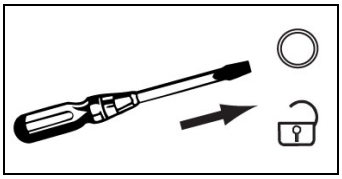
4.4 Door interlock system

The mixer is equipped with a door interlock system which locks the door as soon as the mixing cycle is started.

Releasing the safety door interlock

- Remove the plastic plug cap from the left side of the machine.
- Use a screwdriver to push the release button of the door interlock
- Open the door.





Do not start the machine if any safety devices are defective or modified!

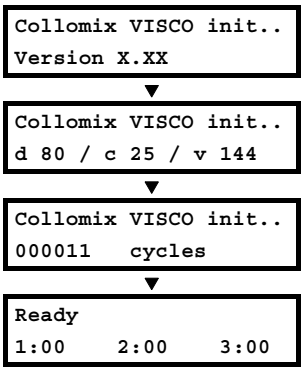
5. Operation

5.1 Switching on the machine

The machine is switched on with the main switch (4).

Switch-on is followed by an initialization routine. The word ***READY*** appears in the display when initialization is completed.

If any errors occur during initialization they will be indicated in the display in plain text. For further information see **Fehler! Verweisquelle konnte nicht gefunden werden.** Messages and troubleshooting.



LCD display: Initialization

5.2 Loading the container

Open the door (if necessary cancel **"STAND-BY" mode** by pressing **button E**).

Unlock the lower clamping table (7) by lifting the locking lever (1) and pulling it forward.

If the mixing container is higher than the position of the clamping table (3), press **button E** to widen the mixing unit.

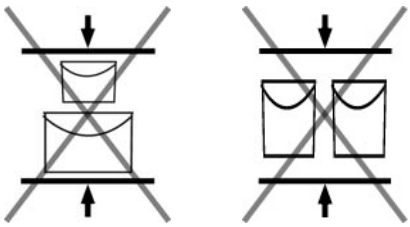
Minimum and maximum container size as well as the maximum weight of the material to be mixed can be found in paragraph 8.1 Technical data.

Secure the handles of the container with adhesive tape and use only undamaged containers. Introduce one container at a time only.

The mixing container must be properly placed into one of the guide rings of the lower clamping table.

In case no guide ring fits, the container cannot be mixed. In this case, please ask the producer to provide a suitable centring adapter.

Push the clamping table back into the machine until it **latches in place**.



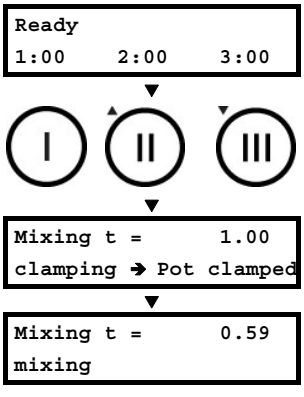
5.3 Starting the mixing cycle

The door has to be closed to start the mixing cycle.

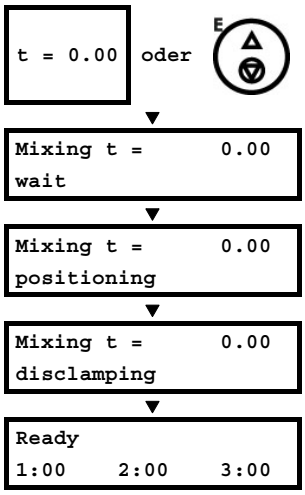
Start the mixing cycle by pressing one of the timer buttons **I, II or III**. The corresponding mixing times are indicated in the LCD display above the buttons.

The mixing container is clamped in the mixing unit and the mixing cycle is started.

The remaining mixing time is indicated in the display as the mixing cycle progresses.



5.4 Ending the mixing cycle



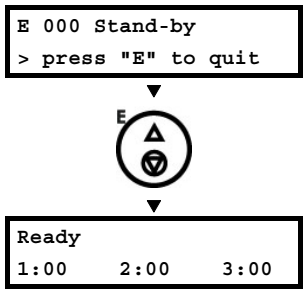
The mixing cycle is ended automatically **when the selected mixing time is over**. The mixing unit is opened, the door can be opened and the container removed.

You can end the mixing cycle prematurely **before the selected mixing time is over** by pressing **button E**.

Open the door and unlock the lower clamping table (7) by lifting the locking lever (1) and pulling it forward.

When you have finished using the machine, be sure to switch it off with the main switch!

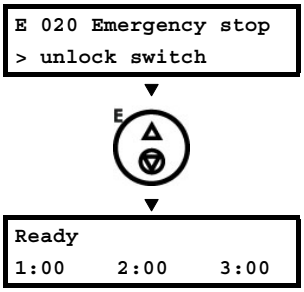
5.5 Stand-by



If approximately 60 minutes pass without the user actuating any function, the Viba will automatically switch to stand-by mode and the door will be locked.

Stand-by mode is cancelled by pressing button E, the door can then be opened.

5.6 Triggering the Emergency Stop function



You can press the **Emergency Stop button** to switch off the machine if a potentially dangerous situation for man or machine arises while the mixing cycle is in progress.

After the **EMERGENCY STOP button** is pressed, the mixing unit will coast to a standstill and remain in this position.

Unlock the EMERGENCY STOP button by hand and **press button E** to cancel the error message.

Open the door and **turn the mixing unit by hand** until it latches in the 12 o'clock position and Release the clamping pressure from the mixing unit by pressing **button E** and remove the container.

The EMERGENCY STOP button does not disconnect the machine from the mains power supply! Therefore, before performing any maintenance work or repairs always be sure to disconnect the machine from the mains by pulling out the power plug!

6. Trouble-shooting

Using the trouble-shooting tables listed in this chapter, you can check whether you are able to correct the errors yourself or whether you need to call the customer service department.

Before calling the customer service department, please make a note of the machine's serial number, the error code being shown in the display and also the status of the LEDs on the control panel. The machine's serial number can be found on the machine's rating plate.

6.1 Initialization

After switching on the machine, a self-test routine is performed. During this initialization, the messages listed below may be displayed. The actions printed on a **gray** background have to be performed by authorized and suitably trained personnel.

LED Display	Display	Remedial actions
230 V ○ 24 V ○	**empty**	• Check the power supply • Check the 230 V fuse • Check the connector / cable of the control pcb
230 V ● 24 V ●	**empty**	• Check the connector / cable of the display pcb • The display is defective • The control pcb is defective
230 V ● 24 V ○	E010 door open > close door	• Check the connector / cable of the display pcb • The display is defective • The control pcb is defective
230 V ● 24 V ●	E010 door open > close door	• Close door • Check the connector / cable of the door lock • Door lock defective
230 V ● 24 V ●	Door switch fault > Call Service	• Close the door • Check the door interlock system • Check the connector / cable of the door interlock system
230 V ● 24 V ●	Collomix VISCO init. E025 Door not locked	• Door unlocked by hand • Check the door interlock system • Check the connector / cable of the door interlock system
230 V ● 24 V ●	E080 MU unlocked > press "E" to Quit	• Latching pin blocked • Check the connector / cable of the mixing unit magnet • The mixing unit magnet is defective • The mixing unit is not in the 12 o'clock position
230 V ● 24 V ●	STOP OVERCURRENT > press "E" to Quit	• Check the connector / cable of the clamp motor and carbon brushes • Check the carbon brushes • Clean the guide columns and threaded spindle

Please note that all maintenance and servicing work must be left strictly to authorized and suitably trained personnel. This applies in particular to work performed with the housing open.

6.2 Error messages

The following table provides an overview of possible errors and their remedies. The actions printed on a **gray** background have to be performed by authorized and suitably trained personnel.

Fault	Machine status	Items to remedy / actions to take
E000 Stand-by	• 60 minutes have passed without the user actuating any function; the machine is in stand-by mode	• Press button E to cancel stand-by mode
E010 Door open	• The door has been opened	• Close the door
	• The door is closed and the LED for 24V is not on	• Check the fuse for 24 V • Check the 24 V circuit • Check the transformer
	• The door is closed and the LED for 24V is on	• Check the door interlock system • Check the lead/connector to the door interlock
E020 Emergency stop	• EMERGENCY STOP actuated	• Release the EMERGENCY STOP
	• EMERGENCY STOP not actuated	• Check the EMERGENCY STOP switching element • Check the lead/connector to the EMERGENCY STOP
E025 Door not locked	• Door not unlocked by hand	• Check the door interlock system • Check the lead/connector to the door interlock
E030 Pot not found	• There is no container in the mixing unit	• Load a container
	• A container is loaded in the mixing unit	• The container is too small
	• The threaded spindles are dirty	• Clean and lubricate the threaded spindles
E040 Max open	• The mixing unit is fully open	• Note that the maximum container height is 400mm
	• The mixing unit is not fully open	• Clean and lubricate the threaded spindles
E050 Pot defective	• The container is defective	• Press button "E" to reinitialize the machine
		• Correct the clamping pressure
	• The container is not defective	• Clean and lubricate the threaded spindles

Fault	Machine status	Items to remedy / actions to take
E070 MU locked	• Latching pin blocked	• The latching pin is blocked – clean and lubricate, replace if necessary
	• Latching pin released	• Check the lead/connector to the switch of the mixing unit magnet • The switch of the mixing unit magnet is defective
E080 MU unlocked	• Latching pin blocked	• The mixing unit is not 12 at o'clock position, move by hand
		• Check the lead/connector to the switch of the mixing unit magnet • The switch of the mixing unit magnet is defective
	• Latching pin released	• The latching pin is blocked – clean and lubricate, replace if necessary • Check the lead/connector to the mixing unit magnet • The mixing unit magnet is defective
E120 Speed too low	• The mixing unit rotates	• Check the lead/connector to the "position" proximity switch • The "position" proximity switch is defective
	• The mixing unit does not rotate	• Check the frequency converter • Check the lead/connector to the motor • The motor / FC or control pcb is defective
Shock error	• The Shock Sensor has detected a highly vibration and therefore stopped the mixing cycle	• Detect the reason for the vibration

Please note that all maintenance and servicing work must be left strictly to authorized and suitably trained personnel. This applies in particular to work performed with the housing open.

7. Service and maintenance

Regular inspections, cleaning and maintenance are necessary to ensure that the machine remains in good working condition at all times.

7.1 Inspections

Check that all safety-relevant parts of the machine are in good working order before beginning with your work. Arrange for authorized personnel to replace defective or damaged parts before you work with the machine again.

7.2 Reinigung

If any material escapes from the mixing container when it is inside the machine, remove it immediately. Use a rag or a spatula. Take care not to damage any connecting leads or sensors.

Dirty threaded spindles can be cleaned with a rag or a wire brush. When you have finished cleaning the threaded spindles, lubricate them again with **ESSO BEACON EP**.

Do not use grease which contains molybdenum, graphite, teflon or MoS2 component for the lubricating of the threaded spindles. These components can damage the plastic spindle nuts durably.

Never clean the machine with a high-pressure cleaner or the like. This could wash the lubricating grease out of the ball bearings, leaving them to run dry. Ball bearings which have run dry must be replaced immediately!

7.3 Maintenance intervals

Every week:

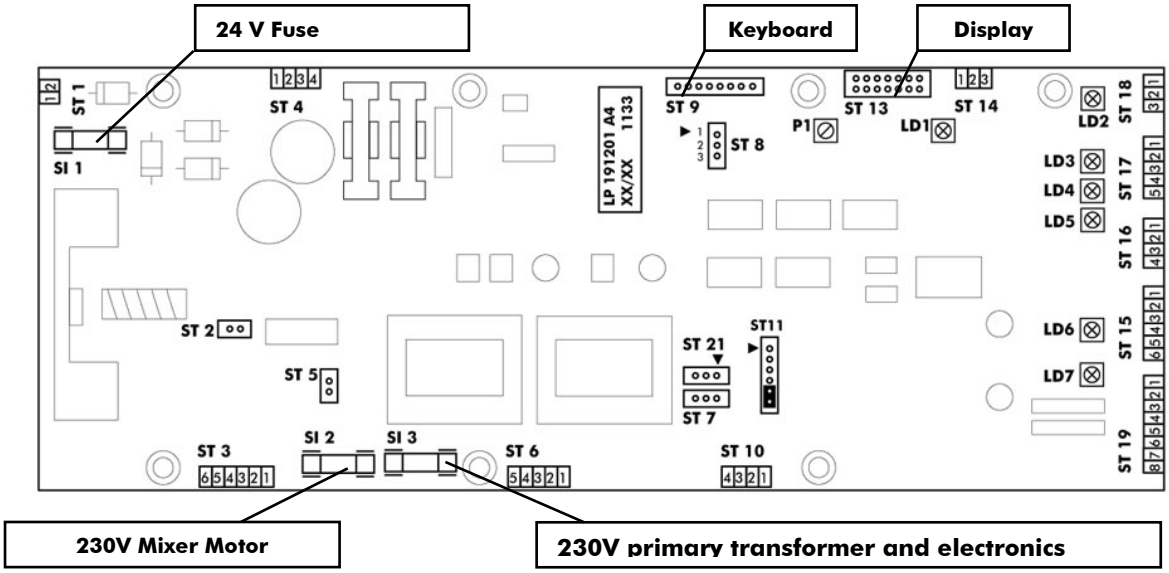
- Remove any dirt from the machine.
- Grease the Locking lever at it's engaging position slightly

Every 6 months:

- Check that the lock pin at the mixing unit magnet moves smoothly.
- Check the tension of the V-belt. Replace the V-belt if it is worn or damaged.
- Check that the locking lever moves smoothly and lubricate lightly with grease.
- Check that the bottom clamping table and the slide move smoothly. Remove any dirt.
- Check that all ball bearings move smoothly. Ball bearings are to be found at the slide, at the two clamping jaws, on the drive shaft on the clamping tables and at the belt guide rollers.
- Check that the door lock is in good working good.
- Check that the door pull is in good working condition.
- Check the degree of wear on the carbon brushes. Minimum length is approx. 9 mm.

Please note that all maintenance and servicing work must be left strictly to authorized and suitably trained personnel. This applies in particular to work performed with the housing open.

7.4 Layout of the control system



Fuses:

No.	Value	Function
SI1	6.3A T	24 V fuse
SI2	6.3A T	230V mixer motor
SI3	4.0A T	230V primary transformer / electronics

Connector assignment:

ST 1	Lead	Function
1	violet	24V AC from transformer
2	violett	

ST 4	Lead	Function
1	blue	Clamp motor
2	--	
3	--	
4	red	

ST 6	Lead	Function
1	brown	230V AC to transformer
2	brown	
3	Schwarz	L1
4	Blau	N Netzeingang
5	Grün/gelb	PE

ST 10	Leitung	Funktion
1	white	EMERGENCY STOP
2	--	
3	--	
4	White	

ST 14	Lead	Function
1	brown	"Position" proximity switch
2	black	
3	blue	

ST 15	Lead	Function
1	4	Door magnet
2	5	
3	1	+ 24 V
4	2	Door contact signal
5	--	
6	3	Door locked signal

ST 17	Lead	Function
1	red	Shock Sensor
2	grey	
3	grey	
4	grey	
5	blue	

ST 16	Lead	Function
1	green	Mixing unit magnet
2	green	
3	gray	Mixing unit magnet switch
4	gray	

ST 18	Lead	Function
1	brown	"Clamp" proximity switch
2	black	
3	blue	

ST 19	Leitung	Funktion
1	--	
2	--	
3	white	Turn rightFU
4	white	
5	--	
6	--	
7	red +	Speed FU
8	red -	

Jumper assignment:

ST2	Closed for BIAX/ROTA/VISCO
ST5	Closed for VIBA
ST8	1-2 Service / 2-3 Operation

LED signals:

Display	Meaning
LD 1	rotary pulse encoder actuated
LD 2	„Position" proximity switch
LD 3	Switch magnet mixing unit
LD 4	door closed
LD 5	door locked
LD 6	magnet mixing unit
LD 7	door magnet open

8. Annex

8.1 Technical data

Type of machine:	***VISCO 500 230V***	***VISCO 500 110V***
Supply voltage:	230V / 50 Hz	110V / 50-60Hz
Rated power:	1,5 kW	1,5 kW
current consumption:	6 A	12 A
Speed/mixing unit:	up to 600 rpm	up to 600 rpm
Max. container weight:	up to 10 kg	up to 10 kg
container height:	900 - 300 mm	900 - 300 mm
Max. container base area:	- 300 mm	- 300 mm
Oval containers	not possible	not possible
Machine weight:	app.190 kg	app.210 kg
Dimensions (w x d x h):	730x830x1060 mm	730x830x1060 mm

8.2 Warranty

The manufacturer undertakes to provide, as part of the general terms of supply and delivery, a twelve-month warranty. This warranty applies to single-shift operation and is counted from the date of initial start-up. It covers all defects arising from faulty material or workmanship. Please note that all warranty claims must be accompanied by the original delivery note or initial start-up report.

All essential warranty repair work must only be carried out by adequately trained service engineers or by third parties with express prior authorization from Collomix. The carrying out of unauthorized repairs may render the warranty null and void.

Please return any defective parts or machines carriage-paid to our factory. Collomix reserves the right to decide on whether cost-free parts replacement is applicable. Parts and labor covered by the warranty will be supplied free of charge. The warranty does not cover travel costs, expenses or possible overnight accommodation resulting from warranty repairs carried out off our premises.

Any further responsibility, with particular reference to damage claims, including foregone profit or other material losses on the part of the customer, is expressly excluded.

Warranty and liability claims for personal or material damages are excluded if attributable to one or more of the following causes:

- Incorrect operation of the machine, as defined in the operating instructions
- Failure to observe the instructions in the operating manual with respect to set-up, initial start-up, operation and maintenance of the machine
- Faults or damage caused by excessive accumulations of dirt and/or incorrect cleaning schedules, with particular reference to leaks and damaged containers
- Operation of the machine with defective safety and/or protection devices
- Unauthorized structural modifications to the machine
- Incorrect monitoring of parts subject to wear and consumables
- Unauthorized repairs and/or the fitting of non-original spare parts
- Damage caused by the impact of foreign bodies or force majeure

We reserve the right to make amendments as a result of ongoing advances in the technical field.

8.3 Recycling and disposal

The transport packaging consists of recyclable material. Please dispose of it accordingly.

At the end of the machine's working life, the materials used in its construction must be properly recycled. If you have any questions concerning the disposal of any materials, please contact the manufacturer.

8.4 Declaration of EC conformity

We declare herewith that this product conforms with the following standards and standard-setting documents:

DIN EN ISO 12100-1, DIN EN ISO EN 12100-2, DIN EN ISO 954-1, DIN EN ISO 14121-1, DIN EN 55011, DIN EN 61000-6-2, DIN EN 61000-4-2, DIN EN 61000-4-3, DIN EN 61000-4-4, DIN EN 61000-4-5

in accordance with the provisions of directives 2006/95/EEC, 2004/108/EC, 2006/42/EC.

Technical file at: Collomix Rühr- und Mischgeräte GmbH, Abt. Technische Entwicklung, Daimlerstr. 9, 85080 Gaimersheim, Germany

Gaimersheim, 29.12.2009

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General Manager

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This declaration of conformity will lose its validity if any changes or modifications are made to the machine without the manufacturer's approval.

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